

probability of error subject to a constraint on the cardinal of the regions of the selected segmentation, with respect to the cardinal of said set of watermarking signals.

16. Method of determining a segmentation according to claim 15, characterised in that said set of coefficients is a set of transformed coefficients issuing from a spatial-frequency transformation of a digital image.

17. Method of determining a segmentation according to claim 15, characterised in that each of the watermarking signals is associated with a watermarking bit and in that the probability of error on the detection of the watermarking signals is the probability of making at least one error on a bit during the detection of the watermarking bits.

18. Method of determining a segmentation according to claim 15, characterised in that the constraint of the minimisation step is that the cardinal of the regions of the selected segmentation is greater than or equal to the cardinal of said set of watermarking signals.

19. Method of determining a segmentation according to claim 16, characterised in that the constraint of the minimisation step is that the cardinal of the regions of the selected segmentation is greater than or equal to the cardinal of said set of watermarking signals.

20. Method of determining a segmentation according to claim 17, characterised in that the constraint of the minimisation step is that the cardinal of the regions of the selected segmentation is greater than or equal to the cardinal of said set of watermarking signals.

21. Method of determining a segmentation according to claim 15, characterised in that it comprises a step of applying a distortion to the set of coefficients, before the step of generating a set of acceptable segmentations.

22. Method of determining a segmentation according to claim 16, characterised in that it comprises a step of applying a distortion to the set of coefficients, before the step of generating a set of acceptable segmentations.

23. Method of determining a segmentation according to claim 17, characterised in that it comprises a step of applying a distortion to the set of coefficients, before the step of generating a set of acceptable segmentations.

24. Method of determining a segmentation according to claim 21, characterised in that it comprises the steps of: generation of a centred pseudo-random sequence equal in size to the cardinal number of the said set of coefficients, formed from centred pseudo-random sub-sequences; modulation of the said set of coefficients by the said centred pseudo-random sequence in order to insert the same information bit on the said set of coefficients; and applying a distortion to the set of coefficients, before the step of generating a set of acceptable segmentations.

25. Method of determining a segmentation according to claim 22, characterised in that it comprises the steps of: generation of a centred pseudo-random sequence equal in size to the cardinal number of the said set of coefficients, formed from centred pseudo-random sub-sequences; modulation of the said set of coefficients by the said centred pseudo-random sequence in order to insert the same information bit on the said set of coefficients; and applying a distortion to the set of coefficients, before the step of generating a set of acceptable segmentations.

26. Method of determining a segmentation according to claim 23, characterised in that it comprises the steps of: generation of a centred pseudo-random sequence equal in size to the cardinal number of the said set of coefficients, formed from centred pseudo-random sub-sequences; modulation of the said set of coefficients by the said centred pseudo-random sequence in order to insert the same information bit on the said set of coefficients; and applying a distortion to the set of coefficients, before the step of generating a set of acceptable segmentations.

27. Method of inserting, in a digital image, watermarking signals respectively associated with watermarking bits, characterised in that it includes a method of determining a segmentation according to claim 15, and a step of inserting the watermarking bits by modulation of the coefficients of respective regions of the segmentation.

28. Method of inserting, in a digital image, watermarking signals respectively associated with watermarking bits, characterised in that it includes a method of determining a segmentation according to claim 16, and a step of inserting the watermarking bits by modulation of the coefficients of respective regions of the segmentation.

29. Method of inserting, in a digital image, watermarking signals respectively associated with watermarking bits, characterised in that it includes a method of determining a segmentation according to claim 17, and a step of inserting the watermarking bits by modulation of the coefficients of respective regions of the segmentation.

30. Method of inserting, in a digital image, watermarking signals respectively associated with watermarking bits, characterised in that it includes a method of determining a segmentation according to claim 18, and a step of inserting the watermarking bits by modulation of the coefficients of respective regions of the segmentation.

31. Method of inserting, in a digital image, watermarking signals respectively associated with watermarking bits, characterised in that it includes a method of determining a segmentation according to claim 19, and a step of inserting the watermarking bits by modulation of the coefficients of respective regions of the segmentation.

32. Method of inserting, in a digital image, watermarking signals respectively associated with watermarking bits, characterised in that it includes a method of determining a segmentation according to claim 20, and a step of inserting the watermarking bits by modulation of the coefficients of respective regions of the segmentation.

33. Method of inserting, in a digital image, watermarking signals respectively associated with watermarking bits, characterised in that it includes a method of determining a segmentation according to claim 21, and a step of inserting the watermarking bits by modulation of the coefficients of respective regions of the segmentation.

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34. Method of inserting, in a digital image, watermarking signals respectively associated with watermarking bits, characterised in that it includes a method of determining a segmentation according to claim 22, and a step of inserting the watermarking bits by modulation of the coefficients of respective regions of the segmentation.

35. Method of inserting, in a digital image, watermarking signals respectively associated with watermarking bits, characterised in that it includes a method of determining a segmentation according to claim 23, and a step of inserting the watermarking bits by modulation of the coefficients of respective regions of the segmentation.

36. Method of inserting, in a digital image, watermarking signals respectively associated with watermarking bits, characterised in that it includes a method of determining a segmentation according to claim 24, and a step of inserting the watermarking bits by modulation of the coefficients of respective regions of the segmentation.

37. Method of inserting, in a digital image, watermarking signals respectively associated with watermarking bits, characterised in that it includes a method of determining a segmentation according to claim 25, and a step of inserting the watermarking bits by modulation of the coefficients of respective regions of the segmentation.

38. Method of inserting, in a digital image, watermarking signals respectively associated with watermarking bits, characterised in that it includes a method of determining a segmentation according to claim 26, and a step of inserting the watermarking bits by modulation of the coefficients of respective regions of the segmentation.

39. Method of inserting, in a digital image, watermarking data made of a plurality of bits, characterised in that it includes the steps of: independently embedding each of the plurality of bits into distinct regions forming part of the digital image, and determining the distinct regions so that each of the distinct regions satisfies a predetermined bit-detecting criterion.

40. Method of inserting, in a digital image, watermarking data made of a plurality of bits, characterised in that it includes the steps of: independently embedding each of the plurality of bits into distinct regions forming part of the digital image, and determining the distinct regions so that each size of the distinct regions satisfies a predetermined bit-detecting criterion.

41. Device for determining a segmentation into distinct regions of a set of coefficients representing at least part of an image in order to insert a set of watermarking signals with a predetermined cardinal, characterised in that it has: means of generating a set of acceptable segmentations, means of calculating, for each acceptable segmentation, a probability of error on the detection of the watermarking signals inserted in said each acceptable segmentation, and means of selecting a segmentation in the set of acceptable segmentations, by minimising, on all the acceptable segmentations, the probability of

error subject to a constraint on the cardinal of the regions of the selected segmentation, with respect to the cardinal of said set of watermarking signals.

42. Device for determining a segmentation according to claim 41, characterised in that it is adapted to consider a set of coefficients which is a set of transformed coefficients issuing from a spatio-frequency transformation of a digital image.

43. Device for determining a segmentation according to claim 41, characterised in that it comprises means for applying a distortion to the set of coefficients.

44. Device for determining a segmentation according to claim 42, characterised in that it comprises means for applying a distortion to the set of coefficients.

45. Device for inserting, in a digital image, watermarking data made of a plurality of bits, characterised in that it includes: means for independently embedding each of the plurality of bits into distinct regions forming part of the digital image, and means for determining the distinct regions so that each of the distinct regions satisfies a predetermined bit-detecting criterion.

46. Apparatus for processing a digital image, characterised in that it comprises means adapted to implement the method of determining a segmentation according to claim 15.

47. Method of determining a segmentation into distinct regions of a set of coefficients representing at least part of an image in order to insert a set of watermarking signals with a predetermined cardinal, characterised in that it includes: generating a set of acceptable segmentations, calculating for each acceptable segmentation, a probability of error on the detection of the watermarking signals inserted in said each acceptable segmentation, and selecting a segmentation in the set of acceptable segmentations, by minimising, on all the acceptable segmentations, the probability of error subject to a

constraint on the cardinal of the regions of the selected segmentation, with respect to the cardinal of said set of watermarking signals.

48. Method of inserting, in a digital image, watermarking data made of a plurality of bits, characterised in that it includes: independently embedding each of the plurality of bits into distinct regions forming part of the digital image, and determining the distinct regions so that each of the distinct regions satisfies a predetermined bit-detecting criterion.

49. Method of inserting, in a digital image, watermarking data made of a plurality of bits, characterised in that it includes: independently embedding each of the plurality of bits into distinct regions forming part of the digital image, and determining the distinct regions so that each size of the distinct regions satisfies a predetermined bit-detecting criterion.

50. Device for determining a segmentation into distinct regions of a set of coefficients representing at least part of an image in order to insert a set of watermarking signals with a predetermined cardinal, comprising a processor programmed to: generate a set of acceptable segmentations; calculate, for each acceptable segmentation, a probability of error on the detection of the watermarking signals inserted in said each acceptable segmentation; and select a segmentation in the set of acceptable segmentations, by minimising, on all the acceptable segmentations, the probability of error subject to a constraint on the cardinal of the regions of the selected segmentation, with respect to the cardinal of said set of watermarking signals.

51. Device for inserting, in a digital image, watermarking data made of a plurality of bits, characterised in that it includes a processor programmed to independently embed each of the plurality of bits into distinct regions forming part of the digital image, and to determine the distinct regions so that each of the distinct regions satisfies a predetermined bit-detecting criterion.